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Important points to observe are the following: (1) See that the books on the shelves are well chosen and are such as will give the students the material they are seeking; (2) make them easily available to every pupil.

Another experiment that is being tried is the placing of a unit of the city library in the record room of the hospital. This unit is made up of books of fiction, biography and travel. The issue from this unit for three months was five hundred and fifteen volumes, making a total of twelve hundred and forty-five books issued in the hospital during that period. The books from the record room unit were used by members of the nursing and medical staffs and from almost every class of hospital employees.

THE TEACHING OF BACTERIOLOGY IN NURSES' TRAINING SCHOOLS

By Eva Parsons, R.N.

Chicago, Illinois

Before we can determine the extent of the course of study in bacteriology, we must decide definitely our purposes in teaching it. This is a very trite statement, to be sure, and has a fearsomely pedagogical sound, yet it is neither more nor less than simple common sense. Suppose, then, that we decide upon the following as results to be desired from a course in bacteriology.

The nurse must know the relationship between bacteria and disease, and the habits of growth and means of destruction of microörganisms in order to prevent the spread of transmissible disease. This knowledge should be so applied that it will enable her to protect the patient, the public, and herself; it should help her use disinfectants intelligently, and give her an adequate basis for understanding the principles underlying nursing procedures. She should know the relationship of bacteriology or rather of microbiology to general biology and to anatomy and physiology. She should know the economic value of bacteria so that she does not have the one-sided view that bacteria are important only as a cause of disease. She should know how to coöperate intelligently with the diagnostic and laboratory procedures of physicians. She should develop some little facility in handling laboratory equipment, and be able to use it in making scientific observations, and to describe accurately observations thus made. Above all, she should attain that "scientific attitude" which withholds judgment until accurate data has been secured.

The next problem to be decided is the kind and amount of subject matter to be covered and the time to be given to it. The ideal way would be to choose the essential subject matter and then compute the time necessary to give to it. This method is not the one commonly used. Rather we are forced to give grudgingly from a crowded curriculum as many hours as we can spare, after due consideration to the relative importance of a subject. At present the time given to bacteriology varies greatly in different schools. The curriculum suggested by the National League of Nursing Education gives twenty hours with a hope of adding more in the future. A great deal can be accomplished in this time, especially when adequate courses in sanitation and infectious diseases are given. The great danger lies in trying to crowd into twenty hours an amount of work that requires twice as much time to cover thoroughly. One of the frequent criticisms of nurses' schools is that the teaching of science gives the nurses a mere smattering and deceives them into feeling this very superficial knowledge of a subject is really its essence. They fail to have any conception of the vast amount they do *not* know. Is it not better to limit the amount of work covered in order to do at least part of it thoroughly?

Another consideration that is relative to the amount of subject matter covered, is the mental capacity of the students. This is greatly, but not entirely, dependent upon previous education. A great deal more ground can be covered with a class having a high average of educational qualifications than if the average is low. Here too, as elsewhere, homogeneity in a group of students makes for ease in instruction. Extremes are disconcerting, as, for instance, a few very clever students in a class having also several very stupid members.

A brief survey of the subject matter to be covered might include the following: an introductory study of the relationship of bacteriology to general biology. (It is well to designate the course micro-biology, since it covers a study of protozoa or microscopic animals as well as bacteria, and several other forms of microscopic plant life.) One lesson may be given to green plants with a study of single-celled algae; another lesson to yeasts; another to molds; then morphology of bacteria; habits of growth and methods of destruction, for which the previous lessons should have laid a good basis; another two lessons may be given to a study of the economically valuable bacteria; the latter one-third of the course may be devoted to bacteria as a cause of disease and to the theories of immunity with special study of representative disease producing organisms.

In the selection of a teacher several things may be done. An ideal teacher would probably be a nurse, trained as a teacher, who has had special work in botany, zoölogy and bacteriology, and experience in a pathological laboratory. A bacteriologist is often a very good teacher but is usually inclined to put all the emphasis upon facts about pathogenic bacteria. A nurse, not having special training, feels she can never have time to gain a specialist's knowledge. But since it is not among the purposes of the course to teach student nurses to be bacteriologists, we need not feel that a nurse should be a bacteriologist in order to teach, providing she has a good general knowledge of the subject. Very often combinations can be made, a nurse instructor giving the preliminary lessons, a bacteriologist giving those dealing with pathogenic bacteria.

We may now discuss the method to be used in teaching. There is no question but that bacteriology is one of the laboratory sciences. This is now taken for granted by all leading educators. One way of using the twenty hours is to divide it equally into classroom discussion and recitation and into laboratory work. Each lesson would then consist of one hour in classroom followed by one hour in the laboratory. If the class is large it may be divided into sections for laboratory teaching. A laboratory section of eight is a conveniently small group, and one that the teacher can supervise quite thoroughly. Such a small group makes for close supervision of technic and permits the teacher to give needed help with microscopic work.

No one text book covers the course as outlined. Therefore we must choose one, or at most two small ones, and supplement with lecture and with references and papers by students. More ground can be covered by using reference readings in addition to class discussion than by lecture method alone. The laboratory work should include as many individual experiments as possible, but where necessary to save time the teacher may cover part of the work by demonstration only. Experience shows that students do not grasp so readily the significance of procedures they do not carry out themselves. The students should be required to keep for inspection notebooks containing laboratory drawings with observations and experiments written up. These notebooks require careful and frequent correction by the teacher. The choice of textbooks is a very difficult one, but there are several good ones published. An outline of the course in micro-biology given at Teachers College has also been published.

The course requires a classroom with plenty of blackboard space for the class hour. The laboratory period should be held in a laboratory which may be also equipped for chemistry, anatomy, and physiology, materia medica, and analysis of urine. Much equipment can be made use of from these subjects for micro-biology. Such a laboratory requires good light, abundant blackboard space, stain proof tables, hot and cold running water, and gas fixtures.

Microscopes are the first essential equipment. There should be at least one for every two students, having $\frac{2}{3}$, $\frac{1}{6}$, and $\frac{1}{12}$ inch objectives. There will be needed also petri dishes, test tubes, fermentation tubes, glass slides and cover slips, a set of prepared slides, stains, oil, balsam, platinum needles, lens paper. A small utensil sterilizer is needed. No provision is made for an autoclave or incubator in the laboratory but access to an autoclave is necessary for sterilizing supplies. The most desirable way of getting media and sterile supplies is to have access to a bacteriological or pathological laboratory that will supply material already prepared. It is no part of a nurse's training to make media, and the instructor has not sufficient time to make up large amounts of supplies.

In what part of the curriculum shall bacteriology be placed? The opinion seems unanimous that it should come in the preliminary course, and if the preliminary course is divided, bacteriology should come in the first part. It is logical that it should precede hygiene and nursing principles and procedures. As an initial study it takes rank with anatomy, physiology and chemistry.

If the teaching of bacteriology is to serve its main purposes well, it must be linked very closely to those conditions under which a knowledge of it is useful. For this reason a nurse is a particularly good teacher. Bacteriology can be correlated well with chemistry and anatomy and physiology and can even be planned to parallel a course in hygiene so that both are reinforced.

Like any other subject of importance to the nurse it requires a well-prepared teacher, good equipment and sufficient time in order to be taught well.

Dr. Franklin H. Martin, of Chicago, says in the bulletin published by the Michigan State Board of Health:

"One-fourth of all cancers occurring in women are cancers of the womb.

Cancer of the womb is so frequent, accompanied by suffering so severe, and the death caused by it is so dreadful no woman should be ignorant of its early signs, but should be equipped with knowledge which would enable her to detect the disease at its earliest appearance and place herself in a position for a complete cure.

Cancer in its beginning is not a general blood disease, as is the popular belief, but is a local disease which if completely removed or destroyed by knife or cautery will not return."